

Appl. No. 09/890,364
Amendment/Response
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Rejection Under 35 U.S.C. § 103(a)

The Office rejects claims 1-6 and 9-10 under 35 U.S.C. § 103(a) as being obvious in view of *Nagayama, et al.* (EP 0732868 A1) and *Illegems, et al.* (U.S. 6,208,074 B1); and claims 7-8 in view of these references and further in view of *Kobayashi, et al.* (U.S. Patent 6,388,377 B1).

It is respectfully submitted that independent claims 1 and 5 are patentable over the applied references, at least because the applied references neither teach nor suggest the at least the patentable feature that an "electroluminescent layer is substantially uniform in thickness to the extent that the **proportion of the organic electroluminescent layer having a thickness within 20 % of the minimum thickness of the organic electroluminescent layer or the proportion of the organic electroluminescent layer having a thickness within 20 % of the maximum thickness of the organic electroluminescent layer, is at least 0.55.**

The reference to *Nagayama, et al.* lacks at least the limitations of claims 1 and 5 that have been captioned above. In fact the Office recognizes that the reference to *Nagayama, et al.* lacks the disclosure of the referenced limitations.

The Office relies on the reference to *Illegems, et al.* that teaches of spin coating an organic EL layer with a perfect uniform thickness.

The Office asserts that it "...is well known in the art that an electroluminescent layer with a uniform thickness has more consistent luminescence than one of widely varying width." It is noted that the correlation between the length and the width

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of the layer, and the luminescence of the layer is not at issue presently.

In response to the referenced assertions of the Office, first it is noted that applicants are not claiming a perfectly uniform thickness EL layer, but rather that the **proportion of the organic electroluminescent layer having a thickness within 20 % of the minimum thickness of the organic electroluminescent layer or the proportion of the organic electroluminescent layer having a thickness within 20 % of the maximum thickness of the organic electroluminescent layer, is at least 0.55.** It is respectfully submitted that the reference to *Illegems, et al.* neither teaches nor suggests at least the referenced limitations of claims 1 and 5. Accordingly, these claims define over the applied references.

The Office Action further asserts that any perfectly uniform layer fulfills the claimed proportion. Applicants respectfully but strongly disagree. The term 'perfect' uniformity implies that the layer uniformity is without imperfection. The parameters of these layers set the minimum bounds of the proportion of the minimum and maximum thicknesses to realize the improvement in the service life of EL devices, and therefore include layers that are imperfect in uniformity of thickness.

Moreover, it is noted that the applicants have observed that known organic electroluminescent (EL) display devices have a service life that is too low. Applicants have determined that the service life of (EL) devices is improved when the thickness of the layer is as set forth in claims 1 and 5. To wit, as set forth in the application as filed, if, in accordance with the

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invention, the proportion set forth in claims 1 and 5 is at least 0.55, the service life of the EL device comprising the EL layer is substantially prolonged. (Please refer to page 1, line 27-page 2, line 17 of the application as filed for support for these assertions.)

Accordingly, it is clear that the applicants have recognized a problem in the EL device industry and have determined that by having the uniformity of the EL layer to be within the parameters set forth in the captioned portions of claims 1 and 5, this problem is overcome.

Finally, the Office Action asserts that it would have been obvious for one skilled in the art to modify the EL device of Nagayama, et al. with an EL layer having perfectly uniform thickness to provide a device with more uniform luminescence. The claims at issue do not claim uniform luminescence. So the stated motivation to combine these references to arrive at a device with uniform luminescence is unrelated to the objective of the claimed invention, which is to improve the service life of the EL device.

For at least the reasons set forth above, it is respectfully submitted that claims 1 and 5, and the claims that depend directly or indirectly therefrom are patentable over the applied art. Allowance is earnestly solicited.

With particular regard to the rejection of claim 8, the Office asserts that ink-jet printing inherently involves dispensing of a continuous jet of fluid. To establish inherency, extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. However, inherency may not be

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established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. It is unclear from the reference to *Kobayashi, et al.* that the ink jet printing provides a continuous flow of material. Extrinsic evidence is respectfully requested to that end. If this assertion of inherency set forth in the Office Action is based on personal knowledge of the Examiner, an affidavit under 37 CFR § 1.104(d)(2) is respectfully requested.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s): the withdrawal of all objections and rejections of record; the allowance of all the pending claims; and the holding of the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

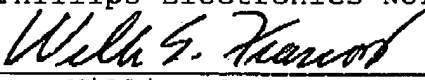
Except as otherwise stated in the previous Remarks, applicants note that each of the amendments have been made to place the claims in better form for U.S. practice or to clarify the meaning of the claims; not to distinguish the claims from prior art references, otherwise narrow the scope or comply with other statutory requirements. Moreover, Applicants reserve all rights they may have under the Doctrine of Equivalents.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact William S. Francos, Esq. (Reg. No. 38,456) at (610) 375-3513 to discuss these matters.

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Respectfully submitted on behalf of:
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